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ABSTRACT

The role of education in development is discussed in this paper as one of a number of issues in education in developing countries, including recent changes in population and technology that render traditional methods of imparting instruction inadequate. The concept of distance education is presented with reference to specific applications in Asia and the Pacific, and involvement of the World Bank and of the Asian Development Bank in distance education are briefly described. Areas recommended for consideration by participants in the regional seminar on distance education at which this paper was presented are summarized as follows: (1) the future role of distance education in human resource development; (2) strategies for implementing this role in relation to overall socioeconomic goals of countries; (3) new models involving modern communication technologies for ensuring the success of strategies suggested; (4) strategies for ensuring quality of distance education programs while enlarging their scope to cover the disadvantaged groups of society; (5) appropriate methods of ensuring academic status to distance education while retaining its flexibility and relevance to techno-economic realities; (6) internal efficiency and external relevance of distance education; and (7) international cooperation and assistance in promoting distance education. (MES)

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Resource Paper

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ISSUES IN DISTANCE EDUCATION

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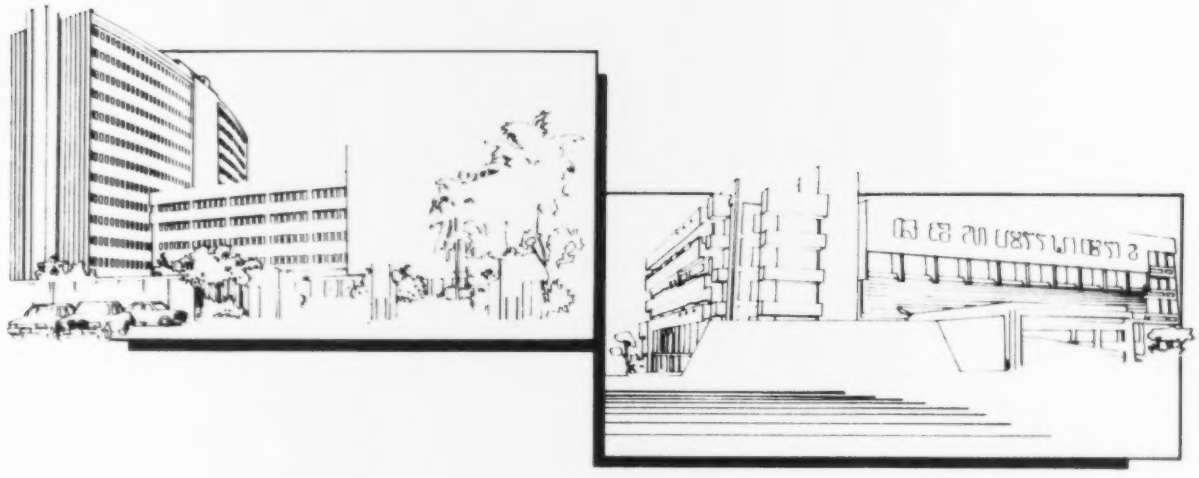

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Resource Paper

ISSUES IN DISTANCE EDUCATION

Motilal Sharma

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ISSUES IN DISTANCE EDUCATION

I. INTRODUCTION

1. Development is a process of structural change in the economic, political, social and cultural domains. Development starts with people, their education and their capabilities because people are the primary and ultimate focus of all development. The broader goal of development is to bring the entire population into the mainstream of the national development process, both as contributors and beneficiaries. In the final analysis, development is the development of an individual, each according to his or her potential, and in this sense education is a crucial aspect of development.

2. The concepts of development and the role of educational systems (both formal and non-formal) are determined by the socio-politico-economic features and cultural patterns of each nation. There is abundant historical evidence that through training in literacy and skills required in agriculture and industry, the productivity of people could be significantly increased. Education is no longer limited to either schooling or the production of entrepreneurs capable of increasing the gross national product, but rather aims at the development of human resources for a wide range of purposes. Learning rather than schooling has become the driving force of human capital formation. The two have not become uncoupled but the links have become loose and unpredictable. Thus the importance of the role of education in development can be seen in terms of the opportunities for individuals to develop their abilities. This emphasizes that economic and technological restructuring must be paralleled by an attempt to give the individual an opportunity to restructure his or her life. Physical and technological investments should therefore go hand in hand with investments on human resources development. In the words of E. F. Schumacher, 1/ "Education is the most vital of all resources for development."

II. GENERAL ISSUES IN EDUCATION

3. Growing populations in Asian and Pacific region demand appropriate education. Some three billion people, or about 63 per cent of the world, live in this region, mostly in rural areas. There are at present over one billion children and youths under 15 years of age in this region. Providing educational opportunities to this large and growing number is a major problem. The number of illiterates is growing faster than the rate at which they can be educated either through formal primary education or through out-of-school literacy campaigns. Women account for the majority of them. Another significant subgroup of illiterates is to be found in the rural areas. Illiteracy remains the major obstacle to development.

1/ Schumacher, E. F., Small is Beautiful, Harper and Row Publishers. New York, 1973

4. During the last two or three decades, second-level and third-level education has expanded at a much faster rate than education at the primary level. Unplanned expansion of third level education has led to rising unemployment among the educated, in turn highlighting the question of relevance of the educational systems.

5. The formal education system provides rural poor and other disadvantaged groups only limited access to education. In fact, it contributes to a certain extent to the inequalities noticed in the field. Typically, nearly 60 per cent of the drop-outs at the primary schools are from the poor families, while 80 per cent of those who complete schools and colleges are from the top 20 per cent of society. Public financing of education thus presently involves a transfer of resources from the poor majority to the rich minority. There is, therefore, a need for designing alternative systems of education and establishing an integrated flexible learning system which can provide wider access to the rural poor, women, and other disadvantaged groups.

6. The current pace of knowledge explosion and the slow pace of knowledge acquired in educational institutions demand a new strategy in terms of a minimum formal schooling to begin with, followed by experience in the field of work. Interleaving school and non-school experiences increases the value of education to the individuals. The phenomena of drop-outs and talented underachievers is another pointer towards the need to design some alternative ways to educate people. This would also point to the necessity of introducing a system of non-formal education in the developing countries, a system which encourages dialogue between the teacher and the learner and allows people to take advantage of appropriate learning experience while they can continue their jobs.

7. Conventional methods of imparting instruction are inadequate, with the school no longer the sole purveyor of knowledge and shaper of social attitudes. The mass communications media such as radio and television can play a crucial role in the dissemination of knowledge. Mass media can provide the means to offer education in selected fields to large numbers of people without incurring huge expenditures on overheads and infrastructure. Properly designed and supported radio projects have the potential for improving learning. 1/ Television can also be an extremely powerful instrument for education.

8. The expanding use of telecommunications, especially satellite technology in several countries, can help overcome many difficulties. Remote areas can be served by a satellite even without setting up a television station in such places. These technologies, if carefully planned and applied, will make a big difference in the matter of access to good education for the maximum number of people.

9. There are several reasons for suggesting a change in educational strategy. First, the traditional educational systems in

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1/ The World Bank, Poverty and Human Development, p.21, 1980.

several Asian and Pacific countries are not suitable in several cases to meet the challenge of economic growth. There is an increasing demand for education strategies which provide practical knowledge to farmers and rural youth for the development of appropriate skills. In several countries, the technological expertise needed for rural transformation has not yet reached the rural people and in many cases extension workers lack training in the skills of teaching adults. Second, the human and financial resources available for education are limited in many countries. Traditional and institutional methods have proved inadequate to meet the growing needs of formal as well as non-formal education. Third, there is a growing awareness on the part of educationists and policy planners, of the decline in the quality of education, despite quantitative gains.

10. The issues which warrant the attention of this Seminar are in my view: (i) major problems which are likely to influence educational development in the coming decade; (ii) the interface between educational policies and national development goals; (iii) effective alternative strategies to provide more equitable educational opportunities to rural poor, women and other disadvantaged groups; (iv) appropriate and effective measures to enhance quality, relevance and efficiency of education (both formal and non-formal); and (v) strategies for mobilizing more effectively additional human and material resources for educational development and optimal utilization of available resources.

11. In the final analysis, the educational systems of the countries of this region share many common problems including rising costs, budgetary constraints, lack of text books, inadequate supply and use of teaching aids leading to low quality and low efficiency of education, slow response in providing education relevant to development goals, lack of curriculum renewal and inadequate access to good education for many groups specially the rural poor and the disadvantaged. In addition, inefficiency in educational systems of developing countries is evidenced by a number of indicators such as (a) student drop-outs, (b) student repetition, (c) low achievement levels, (d) underutilization of physical facilities and teachers time and (e) continuing high illiteracy rate. In many developing countries, the demand for primary and secondary education has outstripped the supply of trained teachers. Untrained, undertrained and underqualified teachers have been pressed into service. Modern communication media through distance education method can enlarge access to the best available teaching talent and benefit a large number of people. Distance education can be used to provide in-service training to teachers on a large scale. The Asian countries are finding it difficult to fulfil the goal of universalization of primary education, and are also not able to meet the increasing social demand for education at all levels through the formal structures of education. Therefore, there is urgent need for development of alternative strategies of education to meet the educational needs of the developing countries. Alternative approaches to education call for greater use of new educational technologies in the years ahead for which provision has to be made in any long-term educational plan.

III. DISTANCE EDUCATION: THE CONCEPT

12. Education is not only a social and moral imperative, it is also an economic necessity. Development holistically conceived in terms of cultural, social, political and economic domains calls for massive, need-oriented education. In turn, it is the need-based nature of education which brings educational technology 1/ into play.

13. With the development of educational technology, the means and forms of providing teaching/learning situations have multiplied and diversified; so have the educational needs of the heterogeneous groups in the community. A single educational program (such an inflexible conventional education system) proves inadequate to suit the needs of everyone. Conventional education systems with uniform methods of teaching do not make sufficient provision for the variations caused by socioeconomic status, age and economically different backgrounds. As a result, disadvantaged groups such as women, have been unable to profit from this system. The traditional system, therefore, needs to be augmented and supplemented by alternative methods and processes which emphasize individualization of instruction and self-determined pace of the learner.

14. In distance education the focus is on the needs of the people to whom the education message is addressed. The determination of the educational needs of the various groups such as drop-outs, out-of-school youth, on-the-job people, farmers, teachers, women, school and university students and illiterate adults is the starting point of distance education. Distance education systems are well known for their flexibility, individualization and adoption of new information, technologies in course development, production, delivery and student support as per their individual needs.

15. Distance education refers to the teaching and learning process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner. Distance education in terms of media usually involves a combination of media (such as radio, TV, film, audio and video tapes, computers, and microprocessors) so as to not only compensate for the limitations of an individual medium but also to derive the maximum advantages from all the media used. The media used in distance education are generally reinforced through correspondence studies and tutorial/practical sessions (as done in many countries such as Australia, Bangladesh and India) for: (i) pre- and in-service training of teachers; (ii) academic courses for those unable to attend school or college; and (iii) adult education programs. The advent of modern communication media has shown that education need no longer be limited to face-to-face learning

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1/ Educational technology can be defined as a process of identifying aims and objectives, planning the learning environment, exploring and structuring the subject matter, selecting appropriate teaching strategies and learning media, evaluating the effectiveness of learning system and using the insights gained from evaluation to improve the effectiveness of teaching-learning system.

situations. Learning can be uncoupled from schooling. In societies which provide reasonable access to the electronic and print media, the time devoted by an individual to reading, listening and viewing exceeds that spent in traditional learning. The media such as radio, television and film - can teach people who have had little or no formal education and bring benefits to the very doorstep of the recipients.

16. Distance education method could be characterized by: the separation of teacher and learner, the use of technical media including print to facilitate communication between the teacher and learner, two-way communication (with emphasis on feedback), and the teaching of people as individuals and not in groups with provision of occasional meetings through seminars, summer/winter institutes, local resource centers, counseling and guidance. Learning in the distance education mode overcomes the constraints of (i) specified locations and (ii) timings of study which characterize face-to-face teaching. The participants can choose their place, time and mode of study. It makes available to adults and out of school youth as well as educationally disadvantaged groups, general, vocational and professionally oriented courses without affecting their capacity to earn their livelihood.

17. Distance education has a great sociological justification as it can help not only in extending education but also in equalizing educational opportunities and thereby help varied and dispersed student populations, even in rural areas. The basic tenet of distance education is that education should be taken to where people are rather than the other way.

18. Distance education methods are used for formal courses at all levels, whether leading to qualifications or not, as well as for non-formal education. Contrary to popular belief, experience in some countries shows that technical and science subjects such as physics and chemistry are taught effectively through distance education. Recently, some developing countries, faced with a chronic shortage of skilled labor, have been experimenting with projects for teaching technical subjects by correspondence. At the university level, a large amount of theoretical work in an engineering degree course can be done outside the college, while the practical work can be done in short, intensive sessions during weekends or at vacation institutes. The Open University in the United Kingdom is an example where radio and television are used together with short compulsory courses for teaching practical, work-related aspects of science, computers and technology. The Technical Correspondence Institute in New Zealand, by arrangement with employers in the private sector, enables students of the Institute to do laboratory work in selected institutes for a short period in a year. Effective communication in distance education requires teaching programs which identify and meet the needs of individual students. Hence, success of any distance education program would depend to a great extent on the quality of software and appropriate use of the communication media. Therefore, any distance education program needs to be supported by quality instructional materials and a core group of outstanding academics.

19. Many countries in this region have expanded educational opportunities by adopting the distance education system. Australia has a long-standing record spread over several years of achievement in this field. Attempts have been made in several developing countries of this region to explore the use of distance education to provide the rural poor access to education. I cite only a few: the School Broadcasting Program, Bangladesh; various institutes of correspondence courses in India, including SNDT Women's University, Open School of the Central Board of Secondary Education and Indira Gandhi National Open University; Allama Iqbal Open University, Pakistan; Korea Correspondence College, Republic of Korea; Radio Education in Nepal; Open University in Sri Lanka; and Sukhothai Thammathirat Open University, Thailand.

20. If distance education needs to be used in developing countries, educationists must remember to communicate clearly to the audience and must undertake programs to create new attitudes and values. To create the right climate educationists need to demonstrate that the recurrent costs of distance education are lower than other competing modes. A few guidelines on viability of distance education in terms of unit costs have emerged from the case studies done by Jamison and Orivel [1/]. For instance, the higher the academic level, the lower would be the number of potential students required, other things being equal, to make the course cost-effective. In most countries teachers engaged in higher education earn three to eight times more than those in primary education; therefore pedagogy in higher education could more easily accommodate substitution of labor by capital.

21. Justification for the introduction of new educational technologies might be found in areas where there is a shortage of trained and qualified teachers, or where teacher performance is poor, or where the subjects demand visual presentation which cannot be offered by a teacher.A media-based course appears to be more economical than a conventional course when a large number of students are involved and opportunity costs are lower.

22. Therefore, there is a need for an analysis of various projects to demonstrate the cost-effectiveness of individual strategies. For example, distance education projects limited to enrichment of face-to-face teaching or in the form of additional teaching for improvement of quality may not be cost-effective. But if distance education is focused on quality improvement, the investment is more likely to be cost-effective and similarly, the size of clientele for various courses and the nature of content could be another consideration for economic analysis of such projects.

IV. THE WORLD BANK'S INVOLVEMENT IN DISTANCE EDUCATION:

23. Out of 302 education projects of the World Bank, 32 (10.6 per cent) have incorporated distance education. The peak period was 1974-1978, when about 19.1 per cent of education projects

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1/ Jamison, D. and Orivel, F., The Cost-Effectiveness of Distance Education Teaching for School Equivalency, in Perraton, Hilary, Alternative Routes to Formal Education, World Bank, 1982.

included a distance education component. East Asia, East Africa and West Africa have used distance education most, accounting for 24 of the 32 projects. The World Bank's first distance education project was implemented in Ivory Coast in 1970 but with fairly discouraging results which to a certain extent, could be attributed to lack of effective software, low-quality media lessons, and inadequate management and feedback systems. Since then, with rare exceptions such as the People's Republic of China III 1/ (Polytechnic/Television University Project) projects have incorporated distance education only as a minor component. These projects could be classified in four categories. The first category includes those projects in which distance education was added on as an enrichment to existing face-to-face teaching. In the second category, teachers were deliberately replaced by distance education for part of the week to improve the quality of instruction. In the third category of projects, distance education was almost the only teaching method because qualified teachers and classrooms were not available in adequate number. These projects were mainly related to areas such as health and agriculture, or in-service teacher training. None of these projects involved teaching of children. In the fourth category of projects, distance education was the only teaching mode. An analysis of such projects with a special reference to their cost-effectiveness can help identify an efficient strategy of distance education.

V. ASIAN DEVELOPMENT BANK'S INVOLVEMENT IN DISTANCE EDUCATION

24. To date, the Asian Development Bank has not participated in any distance education related program. The Bank has supported: (i) Technical and Vocational Education Projects at secondary and tertiary levels to strengthen physical infrastructures in general to meet manpower shortages; (ii) establishment of project-related resource and development centers for the development of improved technology and indigenous technology and indigenous technical capacity; (iii) in recent years, the development of science education at the secondary level; and (iv) university level education. The Bank's record relative to education projects shows that its assistance has been mostly focused on strengthening the physical infrastructure of education systems (e.g. by paying for buildings and equipment). The time has come to examine the need to review the Bank's strategy and examine the scope for distance education systems. It is also necessary to have a clear understanding of the goals to be achieved through distance education so that resource allocation may be made effectively by the developing countries. We look forward to the deliberations and recommendations of this Seminar for identifying the policy which can work best in distance education so that appropriate projects can be formulated. The Bank looks forward to your views on some of the major issues in distance education. Let me briefly mention some of the issues.

VI. ISSUES FOR CONSIDERATION

25. The technological revolution now in progress has already affected the way of life of people in developing countries but its

1/ Hawkridge, David, General Operational Review of Distance Education, Education and Training Department, The World Bank,1985.

effects on conventional methods of education, and specially on the communication of knowledge have been limited. The new technology alters the role of the teacher in relation to the pupils. The teacher is no longer the sole or main source of knowledge. Hence some measure of resistance is expected. Educational technology is often forced on the school before the school has understood what to do with it or how to employ it. A clearer definition of objectives is required.

26. The development and use of educational technology require much more planning and a longer gestation period than do the classical teaching methods. While it is true that economies of scale can be considerable in the application of new forms of educational technology, it is equally true that the unit cost can be too high when the target population is small and production costs are fixed. Moreover, distance education through the technologies such as Radio/TV and films can lead to memorization and rote learning, since there is no face-to-face contact between the teacher and the student. Lessons taught through mass media, if not supported by printed materials, may not be retained. Hence, the design and elaboration of written support materials is considered an essential part of distance education. What is the scope for involvement of the teacher in distance education? How can effective printed material be designed and produced in developing countries where there are already shortages of paper, of printing facilities and of expertise to design the course material?

27. There are also differences of opinion about the quality which can be achieved in distance education. Some argue that it is necessarily the second best, inferior to face-to-face education. Others claim that it has positive advantages, in enabling students to adopt an individual approach best suited to them. Some may not be of the view that distance learning provides second-best education to those who are already educationally disadvantaged. We seem to be in need of agreed criteria for determining the success of distance education. There are other questions: (1) How can an appropriate distance education system be established? (2) How can high quality teaching be maintained and a lowering of standards prevented? (3) How can distance education be closely integrated with the conventional system of education so that students can alternate between full time, part-time and open learning courses? and (4) How can distance education be integrated with the goals of agriculture and industry?

28. Furthermore, there is a need for feedback mechanisms to be built into every distance education program. A system of evaluation and learning from the receiving end is necessary. There is also the technical aspect relating to the use of radio frequencies involved in distance education. The radio spectrum has to be used by individual countries, if need be, in coordination with neighboring countries wherever necessary, in accordance with the principles laid down by the International Telecommunication Union (ITU). This calls for regional cooperation. Technical solution to this problem calls for a concerted effort on the part of developing countries.

29. Determination of the priorities to be assigned in the use of distance education to formal and/or non-formal education is another area which merits your consideration. While in formal education, the results could be quantified, the impact can only be ascertained indirectly in the case of non-formal education, though the latter may well be preferred on grounds of national interest, cultural uplift and social development. The goals will depend on the priorities of individual governments but the implications of the alternatives should be fully analyzed by experts.

30. An important aspect in introducing distance education is the development of appropriate educational content of the programs. Often the hardware tends to be overemphasized to the neglect of software which is really basic to the success of the program. The revision of curriculum design which may be long overdue in several areas, is crucial if the new methods are to succeed.

31. In several countries, distance education can be provided through satellites which can beam radio and TV signals to more than one location, region or country simultaneously. The information revolution, aided by satellites and computers, has yet to make its full impact in developing countries. The Indian experience in satellite education and the efforts of some South Pacific countries in beaming lessons through space have indicated the potential in this field. When sophisticated technology can be adopted for telecommunications in several developing countries, it can as well be used, with suitable modifications for education. However, the implications involved should be spelt out.

32. I now come to the need for trained human resources. In many cases it is observed that the teaching profession has not attracted the best candidates. In developing countries, there is already a shortage of well qualified staff in the conventional education system. The promotion of distance education should not add to this problem. However, distance education can take inputs from a wide range of experts who need not be full-time teachers. Nevertheless, their utilization calls for expertise in designing courses. Training is therefore essential for those involved in distance education. In designing any strategy in education, our objective should be to prevent or at least minimize any mismatch between available human resources and the goals of development. What role can distance education play in this respect? How can wastage be reduced to minimal? How can the over-production of graduates be avoided? Can distance education be utilized in such a manner that its beneficiaries do not add to the problem of educated unemployment?

33. One of the most important tasks that distance learning institutions in developing countries have to undertake from the outset is that of creating new attitudes and values. Will distance education be given due recognition by the academic community? Can distance education gain social acceptance? Will employers including those in the private sector accept the qualifications conferred through distance education unreservedly? Can there be any means of ensuring uniform and high standards in a country where more than one institution offers distance education courses?

34. This distinguished gathering of experts, we hope, will give their considered views on these and other related issues so that the goals of distance education are clearly set and suitable strategies can be devised. To recall, the issues in brief are:

(a) outlining the future role of distance education in human resource development;

(b) identifying strategies for implementing the role outlined in relation to the overall socioeconomic goals of countries;

(c) designing new models involving modern communication technologies for ensuring the success of the strategies suggested;

(d) developing strategies for ensuring quality of distance education programs, while enlarging its scope to cover the disadvantaged groups of society, such as women and the rural poor;

(e) preparing appropriate methods of ensuring due academic status to distance education, while retaining its flexibility and relevance to the techno-economic realities including necessary change in curriculum design suitable for the new modes of delivery;

(f) issues of internal efficiency and external relevance of distance education; and

(g) identifying areas for international cooperation and assistance in promoting distance education.

35. Without pretending to suggest any answer myself to these complex questions, may I submit for your consideration that success in this field depends on two conditions: one, an open mind so that we, the products of conventional educational systems do not look down upon any innovation and two, a systems approach which would ensure a fair chance for the implementation of any new idea.